

INSTALLATION & OPERATING MANUAL



ekey® TOCAhome

ekey® TOCAhome 3

ekey® TOCAhome pc

Access system with finger scan

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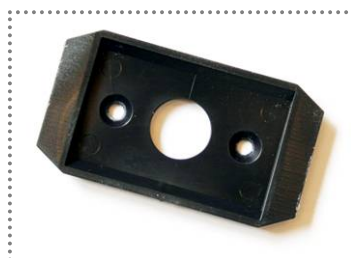
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1. Scope of supply

- Outside unit ("OU")
- Mounting plate for inside and outside unit
- Inside unit ("IU")
- 4 screws and pins for outside unit
- External power supply
- User list
- Warranty card
- Installation – and operating manual
- Quick user guide



Mounting plate IU



Mounting plate OU



Inside unit



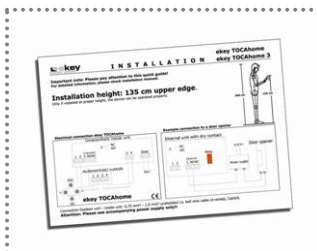
Power supply



Screws and pins



Warranty card



Quick user guide



User list



Manual

1.1 Additional parts provided with ekey TOCAhome pc

TOCAhome pc can be connected to a personal computer via serial interface. The items listed below are the additional components that are included with TOCAhome pc package.

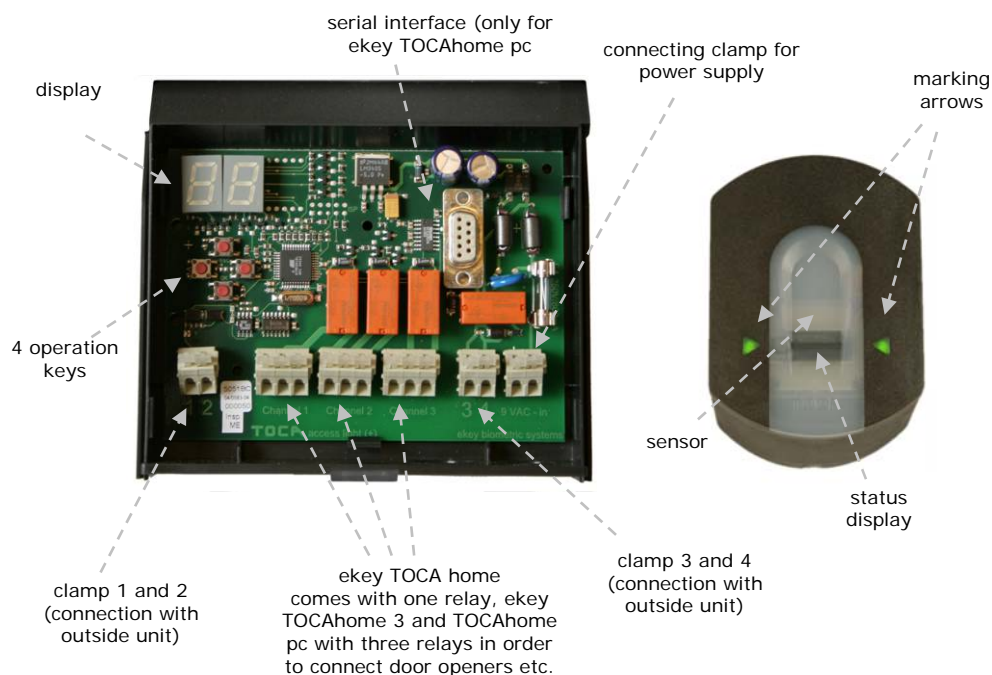


Serial cable



CD-ROM

2. Device overview



Your product is set up with a finger scanner. This finger scanner reads special characteristics of your finger lines and uses them for identification. Each of your fingers is unique and differs from the fingers of other persons.

Model ekey TOCAhome

This model provides 1 relay.

Model ekey TOCAhome 3

This model provides 3 relays. You can assign these relays to different fingers. This can be used for example to switch a door opener, a garage opener or an alarm device.

Model ekey TOCAhome pc

Like TOCAhome 3 this model also provides 3 relays. Moreover, you can connect the inside unit to a personal computer using a serial interface cable.

3. Installation

3.1. Wall fastening of outside unit

Install the Mounting plate (as shown in the illustration) directly on the wall. **The ideal installation height is approximately 135 cm / 52 inches (upper edge)** fingerprint reader is ergonomically positioned for finger surface as it is being swiped.

The unit can be mounted to a standard electrical mounting set" accessory. The mounting holes assemblage on a standard electrical outlet you can work with pins or wooden screws or the wall.

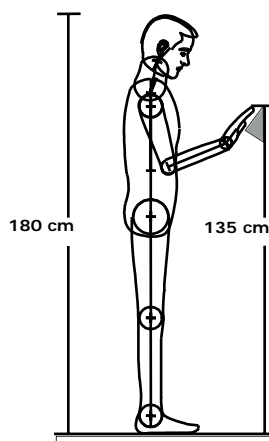


illustration besides) **height is at edge)**. At this height the better reading of the

outlet using "In-wall are designed to make the possible. Alternatively, similar screws directly on

The outside unit (splash water resistant) has to be installed in a place, where it is safe from the impact of heavy rain or snowfall as well as from too strong an incident of solar radiation.

3.2. Wall fastening of inside unit

Mount the "fitting plate", which can be found at the backside of the inside unit. The "fitting plate" at the same time serves as fastener for the casing of the inside unit. Put up the inside unit onto the fitting plate.

Inside unit can be opened by pushing up the lock clip with a flat screwdriver.

The inside unit has to be installed in a way that it is safe from third party access. **Security risk!**

Note:
Installation of inside unit shall be exclusively executed by qualified personnel!

3.3. Electrical connection

The inside unit has to be supplied with electricity; its voltage is 9 VAC. Please use the "9VAC – in" connecting clamps and **only use the power supply provided with your TOCAhome product.**

The inside and outside unit have to be connected via a 4-lines wire (bell wire, CAT 5/6, ...) with a minimum line diameter of 0,75mm² (gauge 21) using connection clamps 1-4. In the case of a wire length of more than 20m the diameter of the wire has to be enlarged and a screened cable has to be used.

1 relay (3 relays with the product ekey TOCAhome 3) is available for controlling external switchgear. The programming is carried out via the programming menu. The relay is equipped with a change-over contact, which is freely usable, the maximum switching power is 250V~5A. Each door opener has to be connected to a dedicated power supply without exception (don't use the power supply provided with you TOCAhome product!).

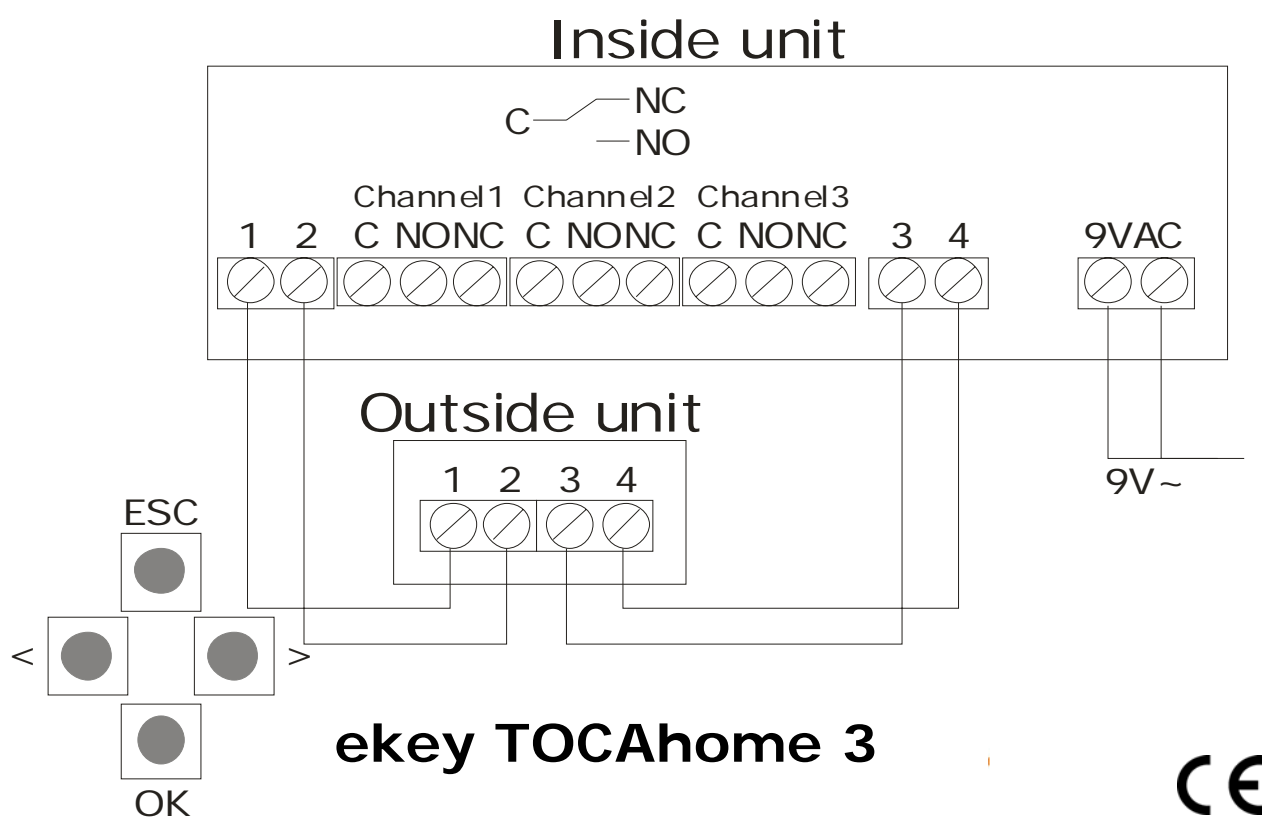
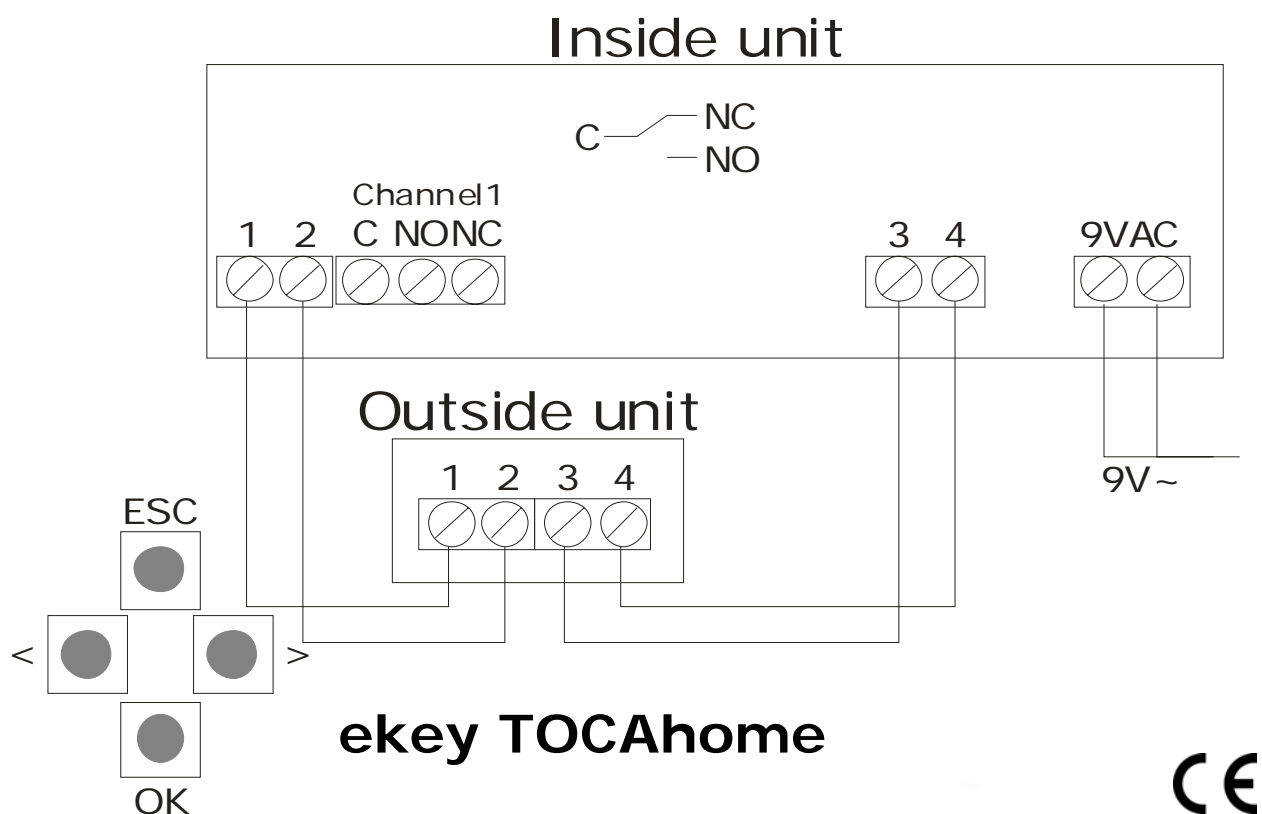
The connection wire between outside and inside unit is to be run separately from electronic house installations, as they send out signals in the lower voltage area, which can be irritated by other neighbouring live power cables.

Remark:

The cables are not protected against reversed polarity.

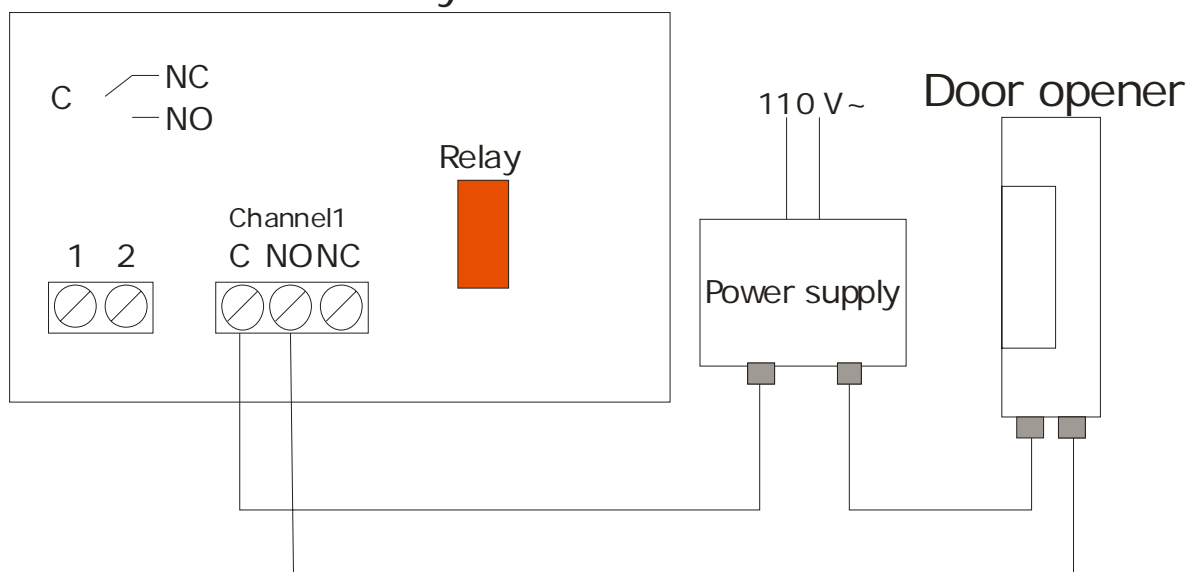
Note:
It is strongly recommended to have the electrical connection done only by qualified personnel!

3.4. Connection diagram



Example: Connecting to a door opener

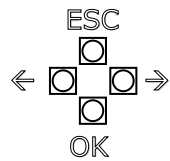
Internal unit with dry contact



4. Operation

4.1. Using the operation keys of inside unit

Programming is carried out by the usage of 4 keys: ⬅ ➡ OK ESC



OK serves to enter the menu and to confirm your input.

⬅ and ➡ serves to change the values in the display and respectively for navigation respectively as shown in the illustration of programming menu in chapter 4.3.

ESC serves to cancel the current selection.

Program-, menu functions and display

Normal operation	. (blinking)
Enrol user	Eu
Delete user	du
Security code setting	Sc
Reset to initial settings (deletes all user settings and data)	rr

4.2. Initial operation: Coupling between inside and outside unit

After applying power, the two dots (..) in the display of the inside unit will illuminates and the status display of the outside unit will start blinking.

Press the OK key followed by the ESC key. The initialising process runs fully automated, whereby the devices are coupled with each other. During this process, which lasts for approx. 15 sec. the display shows OK.

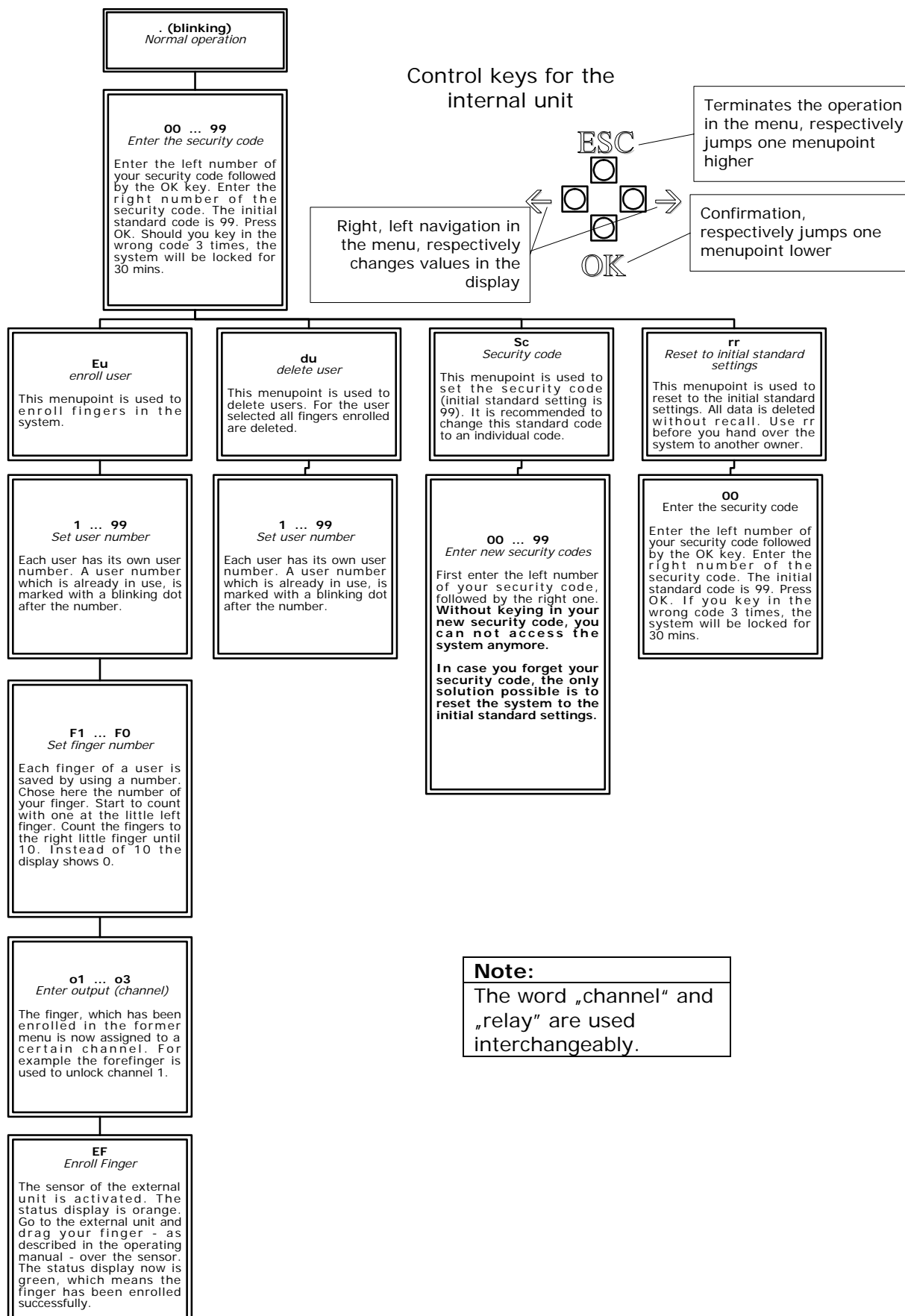
This coupling is used to secure that the outside unit cannot be misused or changed to prevent unauthorised persons from getting access.

After initialization is completed, a single blinking dot signals normal operation. The standard security code which is automatically used is 99. Please change this code to your own individual code.

Note:

The exchange of the outside unit is only possible via resetting the system to the initial settings. All data are erased in this case. You have to carry out the initialisation once again. All fingers have to be enrolled again in the system after this reset.

4.3. Programming menu

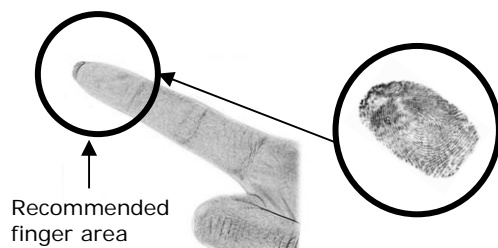
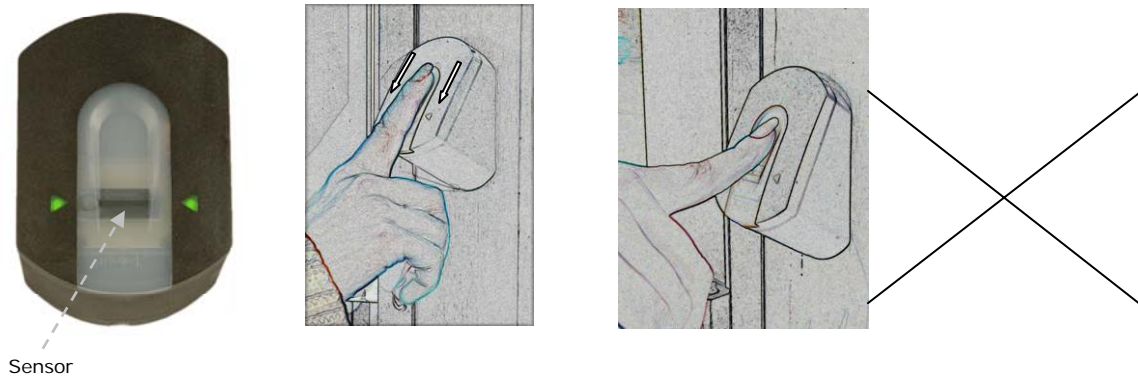


4.4. Enrolment of a finger

4.4.1. How to swipe a finger correctly over the sensor

In order for the reader to properly scan and recognize a particular finger, the finger needs to be positioned and swiped correctly over the sensor as outlined below:

- Locate the reader sensor between the 2 green illuminated arrows.
- Starting from the finger joint, place the finger flat over the sensor. ***It is very important that the whole finger is placed flat over the sensor and not just the tip.***
- Apply little pressure and start swiping the finger immediately all the way down. The bigger the identified finger surface, the higher is the probability that you are recognised again by the system.



4.4.2. How to Enrolment of a finger

1. Press the OK key in the inside unit.
2. By using the keys ← and → enter the left number of the security code (standard setting is 9)
3. Press OK
4. By using the keys ← and → enter the right number of the security code (standard setting is 9)
5. Press OK
6. In the display „Eu“ (enrol user) is illuminated
7. Press OK
8. The display shows „1“. A flashing dot next to the number signals that this user number is already in use. Example: „1.“ Assign the desired user number by using the keys ← and →.
9. Press OK
10. The display shows „F1“. F1 stands for finger 1. Please start to count your fingers at the left hand with the little finger. The right little finger has the number 10 (setting „F0“ in the display). A flashing dot next to the number signals that this user number is already in use e.g. for the right forefinger set „F7“
11. Press OK
12. In the version ekey TOCAhome the display shows „EF“. Please continue reading at the next point but one. In the version TOCAhome 3 you can now determine which relay (channel) should be activated by the selected finger: „01“ is shown. Set the desired channel by using the keys ← and → and press OK. (Channel 1 is signalised in the display by „01“.)
13. The display shows „EF“ (Enrol Finger). You now have 60 sec to draw your finger over the sensor.
14. The outside unit has a status display, which signals the state of operation in different colours.
Red The finger could not be scanned successfully
Green Successful scan
Orange Operating state „enrolment“. The device is waiting for a finger to be scanned.

Note:

Please try to swipe the finger's biggest area possible over the sensor - starting from the beginning of the finger joint. This way, you achieve highest possible identification efficiency.

4.5. Deleting a finger

1. Press the OK key in the inside unit.
2. By using the keys ← and → enter the left number of the security code (standard setting is 9)
3. Press OK
4. By using the keys ← and → enter the right number of the security code (standard setting is 9)
5. Press OK
6. In the display „Eu“ (enrol user) is illuminated
7. By using the keys ← and → navigate to „du“ (delete user)
8. Press OK
9. By using the keys ← and → choose the user number you intend to delete from the system.
10. Press OK
11. OK is illuminated in the display
12. After pressing OK again the device returns to its normal operation (flashing)

4.6. Reset to standard setting

This process is thought for the case of handing over the device to a new owner or user.

When returning to the initial settings all data from the storage are deleted. The security code is set back to the factory setting of 99 and both inside and outside unit loses their coupling.

1. Press the OK key in the inside unit.
2. By using the keys ← and → enter the left number of the security code (standard setting is 9)
3. Press OK
4. By using the keys ← and → enter the right number of the security code (standard setting is 9)
5. Press OK
6. In the display „Eu“ (enrol user) is illuminated
7. By using the keys ← and → navigate to „rr“ (delete user)
8. Press OK
9. Enter the security code again (see steps 1-5)

Now the display shows „_._“ and in the following for approx. 15 sec „OK“ and then „. .“ like after delivery. The inside and outside unit are ready for initial operation.

5. Possible problem areas and their solutions

Problem	Reason	Solution
The enrolment of a finger is not successful	The finger has not been drawn consistently starting from the finger joint over the sensor. The finger has been drawn too soft or too strongly over the sensor. The finger has been drawn too fast or too slowly over the sensor.	Draw the finger consistently over the sensor. Draw the finger gently, but not too softly over the finger. Draw the finger with moderate speed over the sensor.
An already enrolled finger cannot be found	During enrolment another area of the finger was scanned. The enrolment has not been carried out correctly	The finger has to be enrolled again by drawing it consistently over the sensor. See "Enrolment of a finger is not working" – perfect enrolment ensures high identification efficiency.
Status point of the inside unit is not flashing	Break down of the system	Turn off the device for approx. 20 sec.
E0	No connection to the outside unit	Check the „4-line“ connection wire.
E1	Already 99 fingers enrolled	It is not possible to enrol more fingers. If necessary erase fingers in order to enrol new ones.
E2	30min locking after 3 times entering the wrong security code	Wait for 30 min., in order to key in the security code anew.
E3	Wrong unit coupling. The green LED on the outside unit is signalling a positive identification, which is not accepted, because one of the devices has been changed.	After exchange of the outside or inside unit a reset to the initial settings has to be carried out.

6. Technical data

- Connections
 - Connection between inside and outside unit
 - 1x (3x version TOCAaccess light+) relay 250V~ 5A
 - 9VAC with supplied external adaptor
- Memory
 - 99 fingers possible
 - No loss of data after power failure
- Security
 - Coupling between inside and outside unit
 - Extremely low rate of false identification
- power consumption
 - max. 7W
- Speed
 - Recognition time <20ms per stored finger
 - Enrolment time ~1,2s per finger

Recommended diameters of the wires:

Length of wire	Min. diameter of the lines	Type
< 20 m	0,75mm ²	unscreened
> 20m	Diameter of the wire has to be enlarged accordingly	screened cable

Further information

Please find further information on our homepage www.ekey.net. There you can find up-to-date hints and FAQ's.

7. Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



ekey biometric systems GmbH & Co KG
Lunzerstraße 64
A-4030 Linz
www.ekey.net